MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2017/2018

TSE2251/TIS2211 -SYSTEMS ANALYSIS AND DESIGN

(All sections / Groups)

5 MARCH 2018
9AM-11AM
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 4 pages including this cover page.
2. This Question paper contains **Five** questions of **10** marks each. Answer **ALL** questions.
3. The distribution of marks for each question is given.
4. Write all your answers in the Answer Booklet provided.

Question 1

(a) Explain the difference between the logical and physical design of information systems. (3 marks)

(b) What is agile methodology? Give three key principles of agile methodology. (3 marks)

(c) Explain FOUR main characteristics of management information systems and decision support systems. (4 marks)

Question 2

(a) List any THREE activities performed by a manager during the project execution phase. (3 marks)

(b) The time taken for each activity and the predecessors for a project with 10 activities are shown in the following table.

No	Activity	Time (weeks)	Immediate Predecessors
1	Collect requirements	1	-
2	Analyze processes	5	1
3	Analyze data	4	2
4	Design processes	4	2
5	Design data	8	1,3
6	Design screens	3	3,4,5
7	Design reports	7	5,6
8	Program	6	7
9	Test and document	5	6,7
10	Install	4	7,8,9

(i) Draw the network diagram. (2 marks)

(ii) Calculate Earliest completion time (T_E) and Late completion time (T_L) for each activity. (4 marks)

(iii) List the activities which are on the critical path. (1 mark)

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Question 3

(a) The following table shows three alternatives (A, B and C) for a given project. The weight ratings for the requirements and the scores achieved by each of three alternatives are also shown in the table. Applying multi-criteria analysis, prepare a ranking list for A, B and C. (3 marks)

Criteria	Weight Rating	Alternative A -Scores	Alternative B -Scores	Alternative C -Scores
Requirements				
Real-time data entry	18	5	5	5
Automatic reorder	18	1	5	5
Real-time data query	14	1	5	5
Constraints				
Developer costs	15	4	5	3
Hardware costs	15	4	4	3
Operating costs	15	5	1	5
Ease of training	5	5	3	3

(b) Competitive strategy is the method by which an organization will attempt to satisfy its mission and objectives. Explain briefly the three main types of competitive strategy used by organizations. (3 marks)

(c) Calculate the net present value of three payments of RM1500 each made after 1, 2 and 3 years. Assume the discount rate is 10%. (4 marks)

Question 4

(a) The process 'Generate_Orders', in an Inventory Control System of a restaurant will send purchase orders to the vendors if the stock of any quantity used by the restaurant goes below the 'Minimum_Order Quantity'. Describe the 'Generate_Orders' process using 'Structured English' method. (3 marks)

(b) STUDENT is an entity type in an university campus. Two subtypes of STUDENT are GRADUATE-STUDENT and UNDERGRADUATE-STUDENT. In this supertype-subtype relationship, state with reason which of the following rules are applicable? (3 marks)

i. Total specialization ii. Partial specialization

iii. Disjoint iv. Overlap

Continue...

(c) A flight reservation system (FRS), after receiving a travel request from a passenger sends the passenger's preferences to a travel agent. The travel agent prepares the ticket and sends the ticketing information to FRS. The FRS sends these details to the Airline for passenger reservation. The FRS receives the confirmation from the Airline and sends it to the passenger. Draw the Context Data Flow Diagram for this system. (4 marks)

Question 5

(a) Explain these four types of testing used for information systems: Static, Dynamic, Automated and Manual with one example for each. (3 marks)

(b) Explain the following three types of maintenance used for Information systems:

(i) Corrective maintenance
(ii) Adaptive maintenance and
(iii) Perfective maintenance.

(3 marks)

(c) A training center has many Personal Computers(PCs) purchased from different vendors which are located in different rooms. Some of these PCs have many component boards installed inside and some are connected with Peripheral Equipment. Construct an E-R diagram with cardinalities for this training center. (4 marks)

End of QP